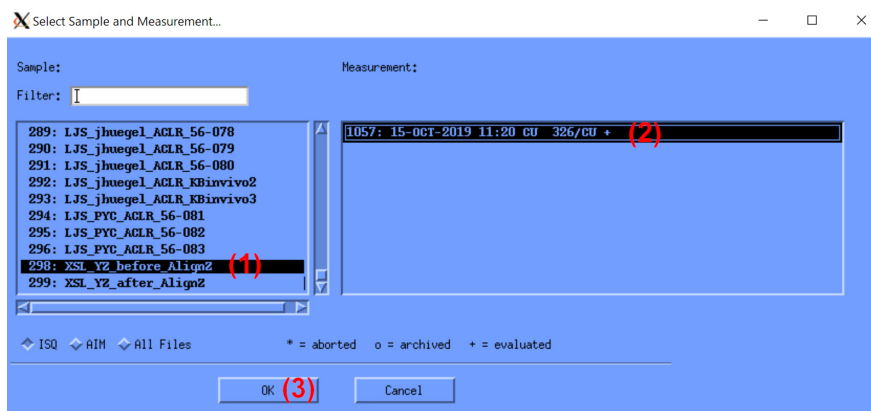


Instructions for Sample Realignment (v2019.12)

Step 1: Draw GOBJ to cover the desired regions of your scan

This sample is on Vivact 80. Sample#: 298, Measurement#: 1057

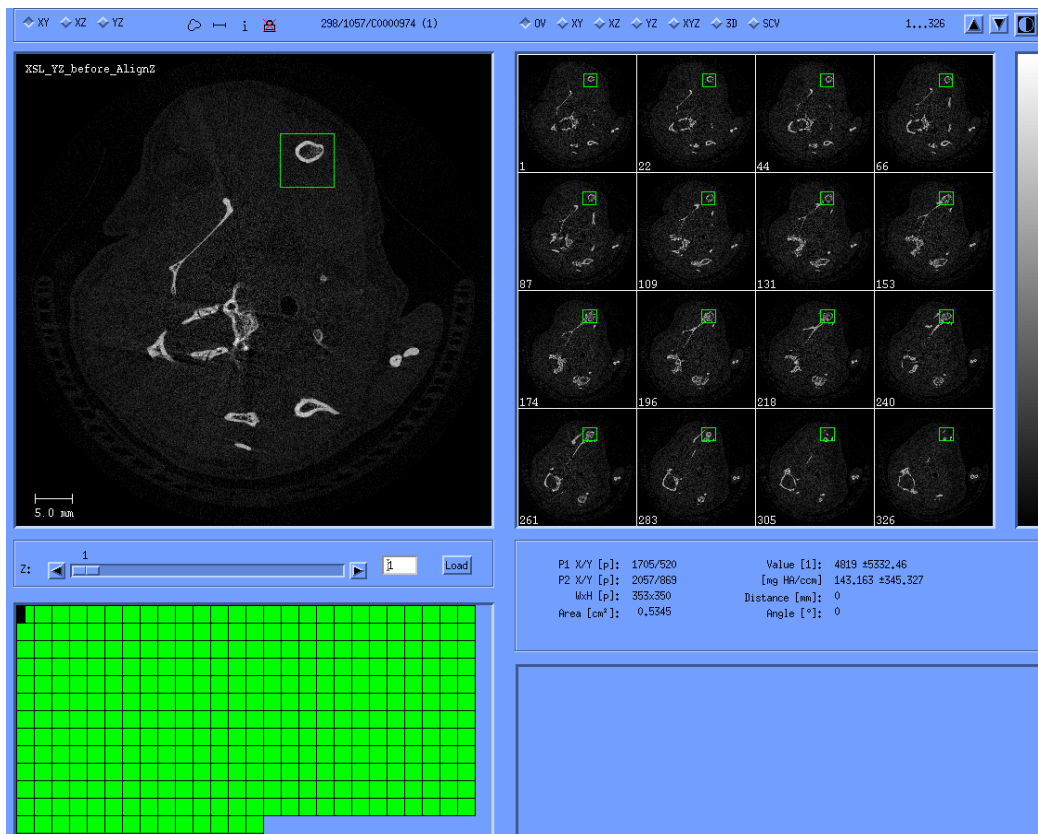
1. In evaluation program, open your scanned sample (Command: `uct_evaluation`)



2. Draw GOBJ on the desired regions of your scan

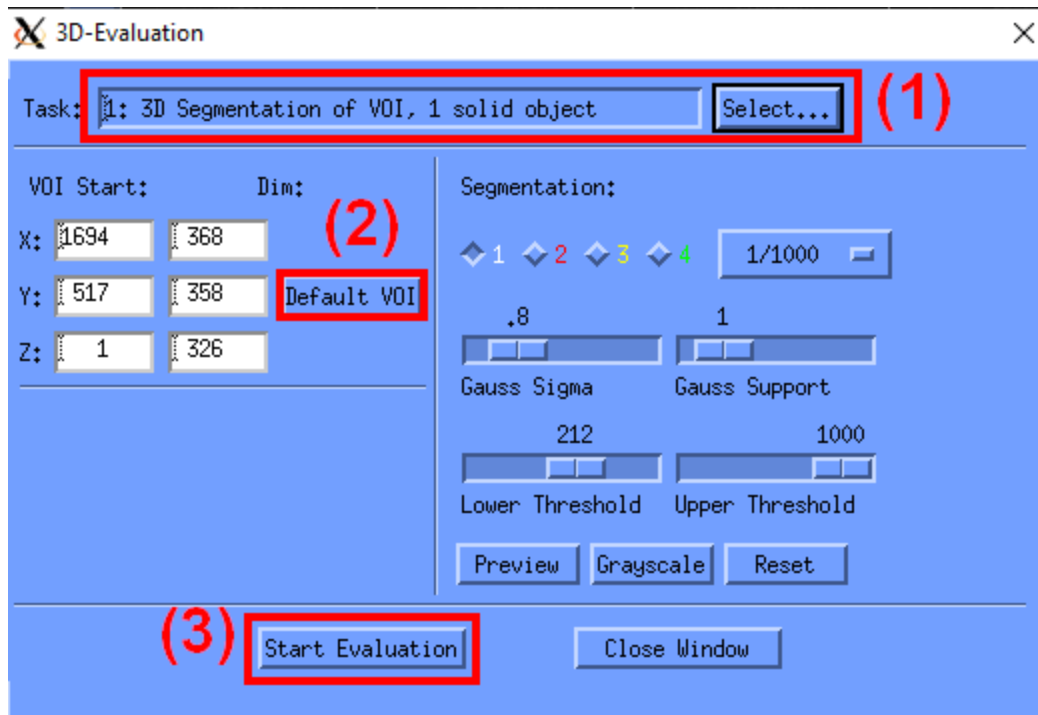
Purpose:

- Remove unwanted region to reduce later processing time.
- Generate AIM and SEG.AIM file.

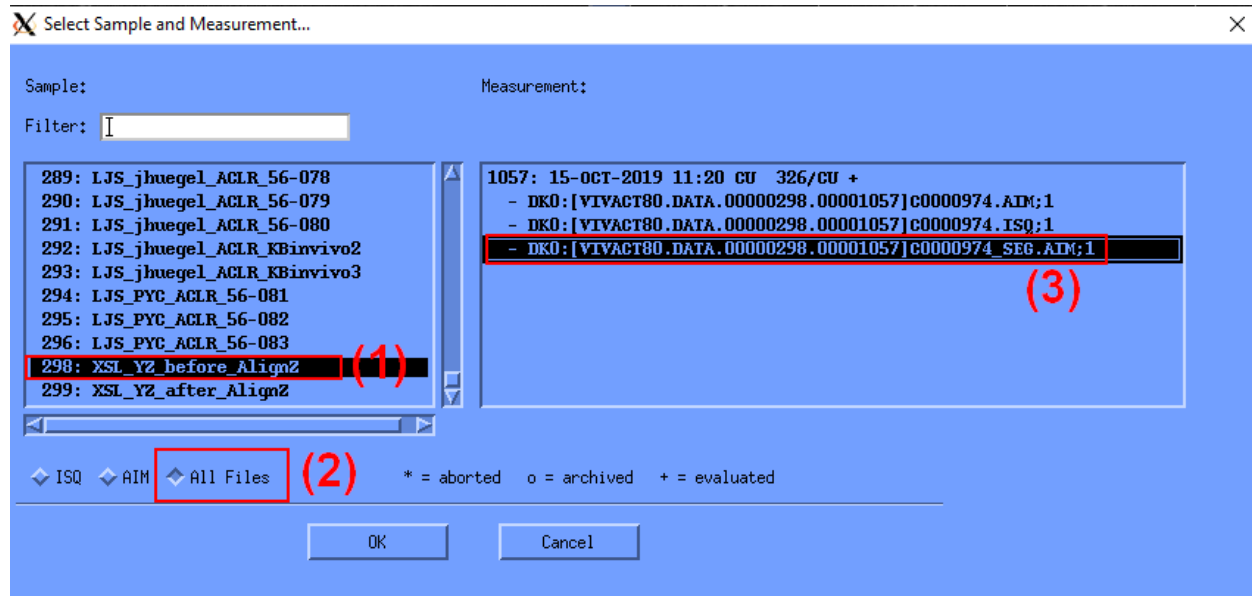


3. Crop out your desired region:

Choose "1: 3D Segmentation of VOI, 1 solid object", click "Default VOI", and click "Start Evaluation"

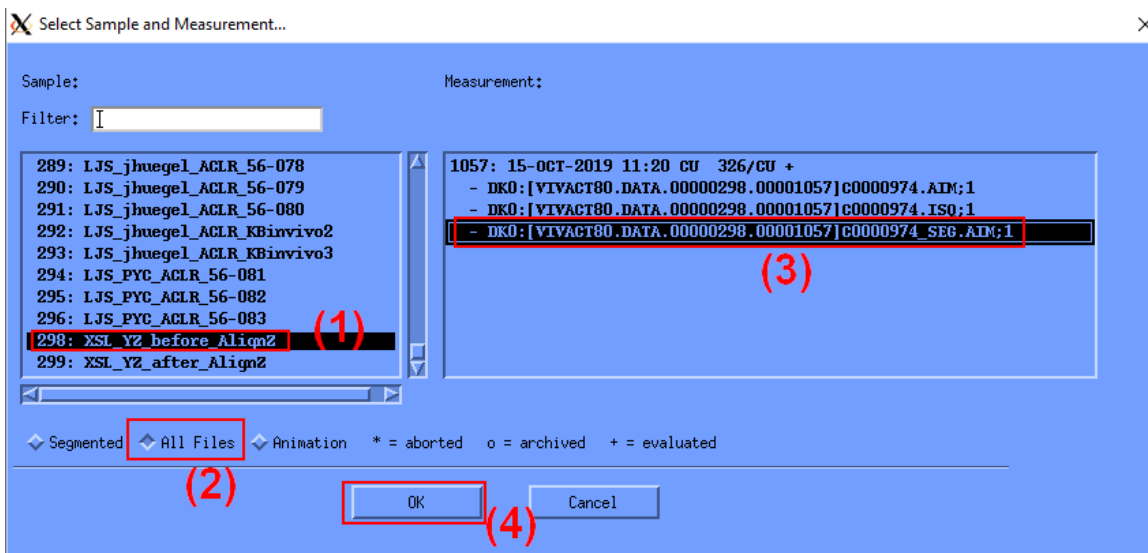


Then, wait until _SEG.AIM file is generated in your measurement folder, as shown below

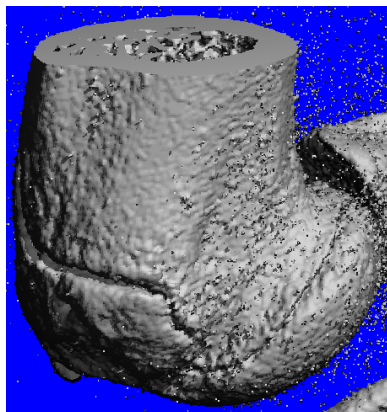


Step 2: Pick 3 points on 3D segment of your sample

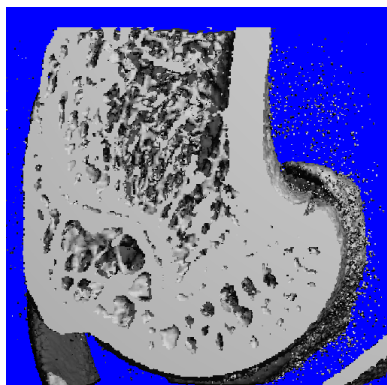
4. In 3D viewing program, open the _SEG.AIM file (Command: uct_3d)



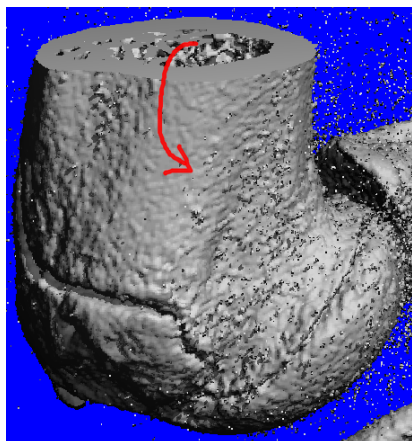
This is an example of rat shoulder humeral



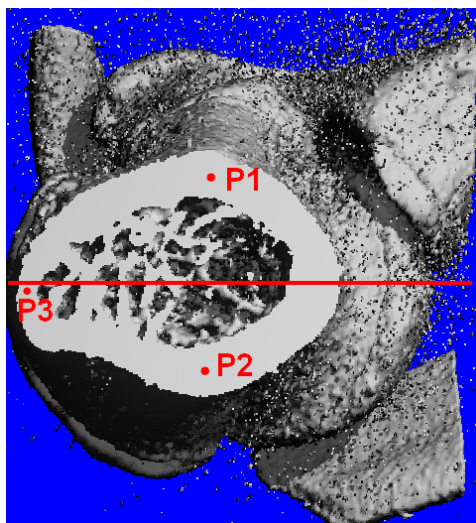
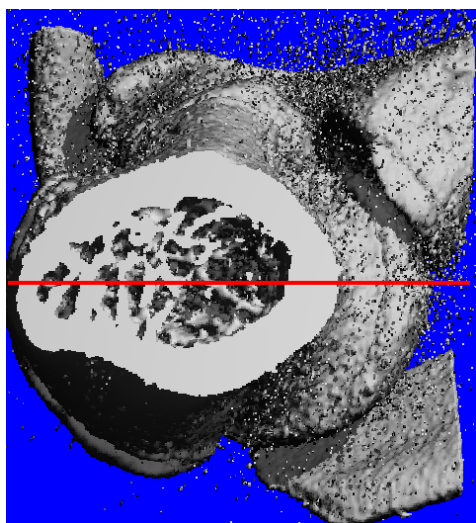
5. Suppose the below figure is your desired section plane after realignment



The key step is to find a line **P1P2** that is perpendicular to your desired section plane.
To find a line **P1P2**, drag the sample 90 degrees (red arrow below),



You will get this plane (like top view) perpendicular to your desired section plane (red line below).

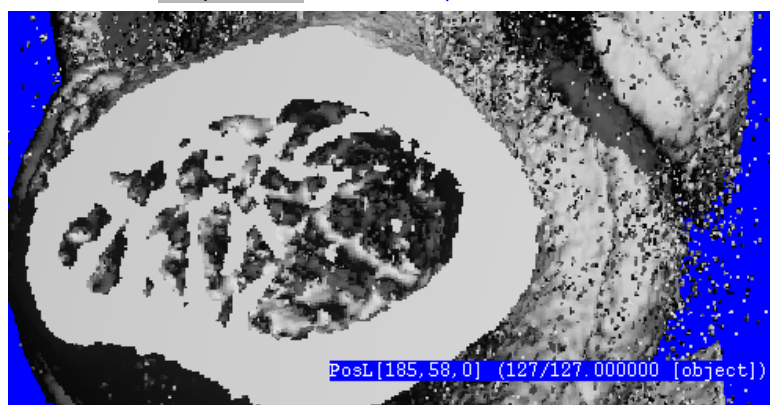


Press “Shift” key, move your mouse over P1, P2, P3 (position info will show up), make sure P1P2 line perpendicular to your desired section plane (red line above)

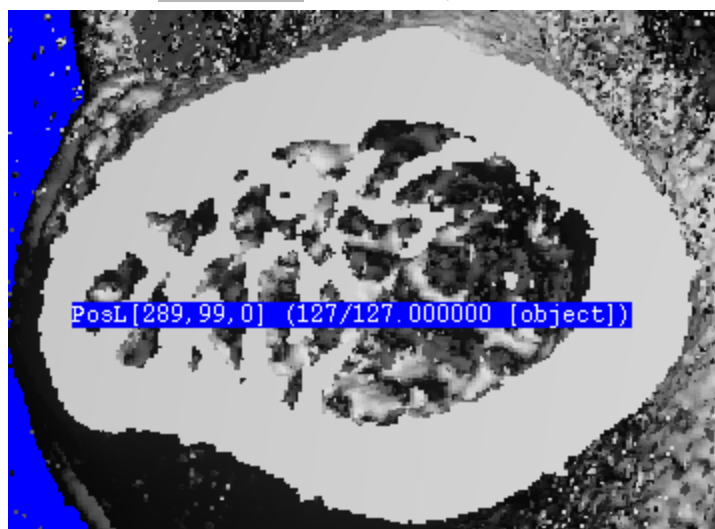
Write down P1 position: 193,181,0 (*Use a COMMA between each number*)



Write down P2 position: 185,58,0 (*Use a COMMA between each number*)



Write down P3 position: 289,99,0 (*Use a COMMA between each number*)



Note: In this example, P3 is on the left side of P1P2 line.
(P3 can also be on its right side. See the end of this instruction.)

Step 3 (optional): Prepare new sample#

6. If you want to import the realigned sample into a new sample folder, you can create a new sample# here. (Command: `uct_sample`)

(If you prefer to import into the same sample# as before alignment, you may skip this step.)

Write down the newly generated sample#.

Step 4: Fill in the Sample_Realignment form

7. Fill in the Sample_Realignment form, and send to pcmd.microct@gmail.com

In this case:

Original sample#: 298.

New sample#: 299.

(If you prefer to import into the same sample#, you may use the original sample#.)

Select “**3 Point Alignment (AlignZ)**” in the alignment options.

Select “**Import with old sample name**” in import options.

(You may also select new sample name. Up to you!)

1. Enter your email here: <input type="text" value="yiluzhou1987@gmail.com"/> (1)						
2. Select machine: <input type="text" value="Vivact80"/> (2)		3. Select alignment options: <input type="text" value="3 Point Alignment (AlignZ)"/> (3)		4. Select import options: <input type="text" value="Import with old sample name"/> (4)		
Use COMMA btw each number, e.g.: 100,100,100						
Sample#	Measure#	New Sample#	P1	P2	P3	
(5) 298	1057	299	193,181,0	185,58,0	289,99,0	

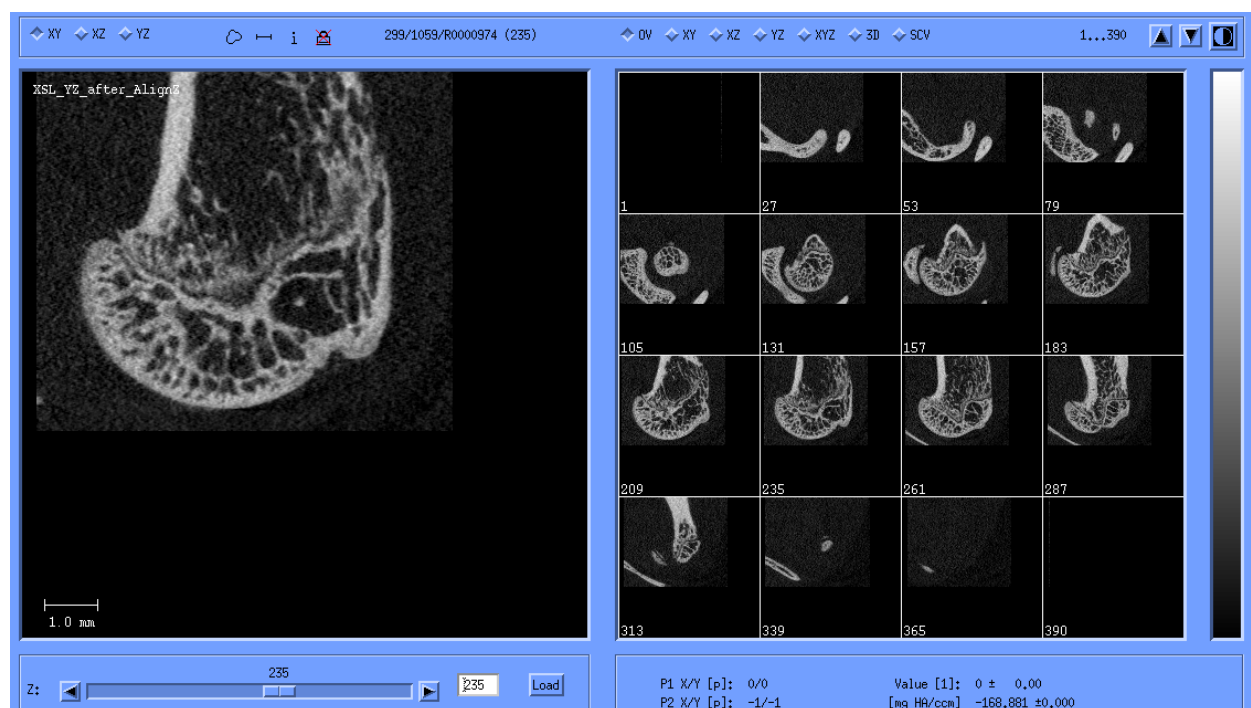
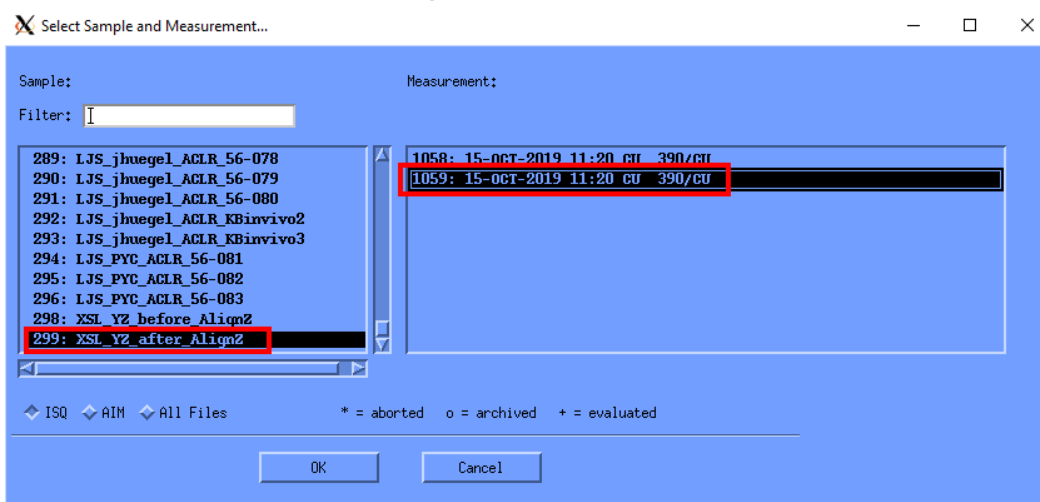
If you are doing this for the first time, we strongly recommend you submitting ONLY 1~2 samples to give it a try.

Step 5: You will receive a new Excel sheet after your sample realignment request is completed

- Open the new Excel sheet you received (with the name “_Output”) that contains the new measure# after sample realignment

	A	B	C	D	E	F	G	H	I	J
1	uCT Machine	Sample Name	Sample#	Measure#	New Sample#	P1	P2	P3	New ISQ filename	New Measure#
2	Vivact80	XSL_YZ_before_AlignZ	298	1057	299	193,181,0	185,58,0	289,99,0	R0000974.ISQ	1059
3										

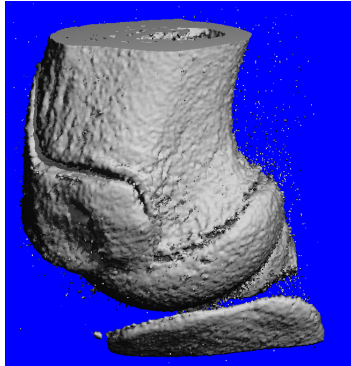
- Double check the sample realignment



All done!

NOTE 1: (About P3 selection)

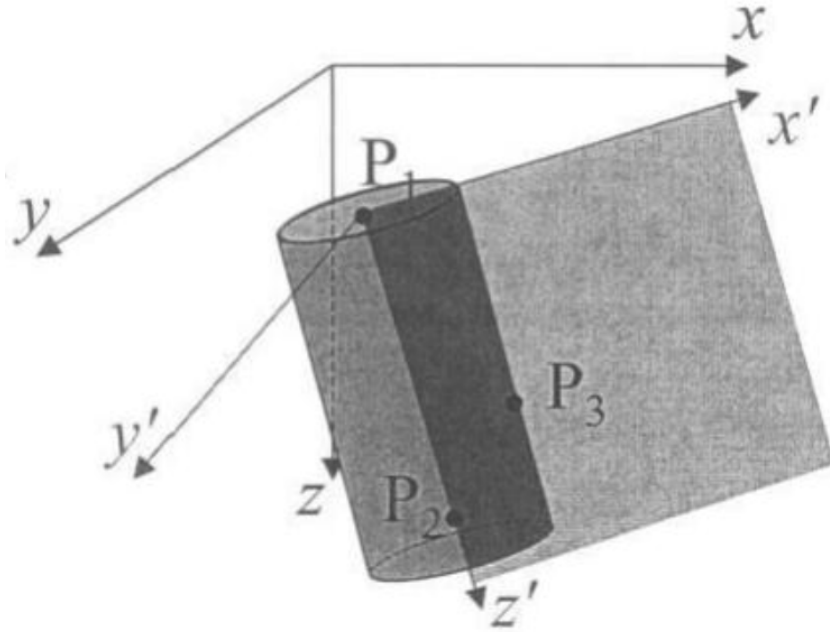
For this sample shape:



	P1, P2, P3 selection	After Sample Realignment
P3 on the <u>left</u>		
P3 on the <u>right</u>		

NOTE 2: (About P1, P2, P3)

Determine the points for new axes:



P1: the coordinates of the new origin

P2: the coordinates of a point on the new Z-axis

P3: the coordinates of a point in the new XZ-plane